ADDITION OF MEASUREMENTS OF BISPHENOL A IN URINE TO THE STUDY PROTOCOL FOR A EUROPEAN HUMAN BIOMONITORING (HBM) PILOT STUDY

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Background and Aims:
In December 2009 the COnsortium to Perform Human Biomonitoring on a European Scale (COPHES) financed by FP7 EU, began work towards an EU HBM framework. This will be accompanied by a feasibility study called DEMOCOPHES, co-financed by Life+, which started in autumn 2010 and requires shared contribution from EU and the participating countries.
In all countries participating in the pilot study of Human Biomonitoring in Europe[1] a basic scenario will be followed measuring cadmium, cotinine and phthalates in urine and mercury in hair. In addition, some countries will analyse other substances, including measurements of Bisphenol A in urine. Bisphenol-A is considered a high-volume chemical (>1000 tons produced or imported in the EU) used in a wide range of applications. BPA is mainly used as a monomer in the production of polycarbonate and epoxy resins. Polycarbonate is a hard and transparent plastic used in reusable drinking bottles and baby bottles, electrical and electronic household and office equipment. Epoxy resins are mainly found in coil coatings and as coating in food and drink cans. The concern about human exposure to BPA has risen since recent findings that BPA has estrogenic effects in *in vivo* animal experiments at low doses which are within the expected human exposure range. Following oral administration, BPA appears to be rapidly absorbed from the gastro-intestinal tract and undergoes a practically complete first pass metabolism in the liver by conjugation with glucuronic acid. Subsequently, the formed glucuronide is rapidly cleared from the blood and eliminated through urine.

Methods: Urine samples will be collected in autumn 2011 from children in the age range of 6-11 years and their mothers with a 60 pairs rural and 60 pairs urban distribution in each of the participating countries (Belgium, Denmark, Luxembourg, Poland, Sweden, Slovenia, Cyprus and Spain). The samples will be analysed following a harmonised protocol with interlaboratory harmonisation presently ongoing.

References:

[1]http://www.eu-hbm.info/.